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# SPACE MAINTAINERS*

Walter C. McBride

Space retainers are excellent in theory, idealistic from a teaching viewpoint, splendid for institutionalized children where there may be no question about technic or finances but they are more or less a difficult departure in practice. I make perhaps as many as any other operator of my ilk and would like, in the interest of better dentistry, to make more, but all too frequently I seem faced with curtailment, either through lack of interest or lack of finances on the part of the parent or by the very learned negative nod of orthodontic friends.

Parents many times look astonished when I explain orally and with models what will occur if the space in question is not maintained, yet drop the matter by "temporary postponement" if for no other available reason when the thought of spacer construction is encouraged. At times I've wondered if they think the idea is pure fantasy or perhaps just another "jim slick" idea to fleece the unsuspecting public out of their hard earned wherewithall. Certainly I have never high pressured anyone. Always it has been my privilege, and that only, to explain and present the usefulness and need for such a device and then leave it for the parents' consideration. If they wish and ask for the service then I know the project is acceptable. If not the relationship of patient and operator is still satisfactory. A notation is placed on the patient's card that a spacer was indicated and recommended as of a certain date, as a general fortification of my style of dentistry in case the orthodonist may say four or five years later when approached that the extracted teeth were the initial cause of the disorder.

Of recent years, the orthodonists as a group have been advising against a great many of the space retaining appliances. Not all of the orthodonists, of course, nor against all of the appliances but some of each. Prompted by this attitude I have been more observant of mouths with and without spacers and as a result have changed a few of my ideas regarding them.

For four or five years I have not made a spacing appliance for the upper arch, that is where one or more of the incisors have been lost. From the viewpoint of growth and ultimate expansion of the arch I'm about convinced they are nonindicated. However, esthetically they serve a purpose. The ill appearance of two anterior teeth converging toward one another as they are more or less bound to do if the loss of the tooth or teeth is early, is definitely unsightly. The parallel placement, maintained by a spacer, even with the spacer's obviousness is many times more pleasing to the eye. However, to very definitely punctuate some of my secret inhibited emotions, if my own child lost an anterior tooth at 3 or 4 years of age I'd sneak in a spacer when the orthodonist wasn't looking—just in case.

The lower anterior arch is, I think, a separate problem. Not being a

*Read before the American Society of Dentistry for Children at its annual meeting, Cleveland, September, 1940.

definite part of the skull severe contraction may come and its width growth at the proper age is not so definitely promoted. Very decidedly in the case of missing lower deciduous incisors I would construct a spacing appliance.

Again, from the orthodonist's viewpoint, space maintaining in the deciduous molar region receives a great many frowns. True, some mouths will provide a miraculous self correction but I have my doubts in the case of lost second deciduous molars at say three or four years of age, or in fact any time prior to the eruption of the first permanent molar. And I have further doubts in the same instance if the loss occurs after the first permanent molar has erupted unless the mesial cusp became engaged with the distal of the exfoliating opposing deciduous molar. When the first deciduous molar is lost the mesial drifting of the permanent molar is not always evident though there is nearly always a distal drifting of the anterior segment carrying the incisors and cuspids on that side. Fortunately, however, if the distal drifting is not too excessive self correction may ensue.

If and when both molars are lost, except perhaps in a rare instance, all the king's orthodonists and all the king's men couldn't quite convince me that space maintaining was ill judgment.

A space maintainer, technically, is any device for holding the space made by the loss of a deciduous tooth until the eruption of the permanent tooth. Most spacing is provided for a single missing tooth. There is reason to believe that more deciduous molars might be maintained and used for space maintaining, instead of so nonchalantly removing them.

John Brauer says there are more dentists afraid of children than children of dentists. Though there are sufficiently more children than dentists to make the analogy a bit far fetched yet he has a point and it is well taken. It is this reason, coupled with a general mismanagement of children which entails so much promiscious extraction of deciduous teeth. Granted there are reasons there should be some stopping place for this indiscriminate practice.

Why not restore and leave a few teeth for space maintenance occasionally just for the novelty of it—the novelty may intrigue you and may develop into a habit to perhaps justify the procedure. Why not occasionally do root canal work or a pulptomy on a strategically placed tooth or one very much needed, to the exclusion of extraction and a space appliance.

It is part of my operative procedure to conserve one side of a badly broken down mouth, if at all possible, in the interest of masticatory function. A child who bolts his food because of no masticatory surface is obviously ill nourished. In so doing I do root canal therapy on an occasional tooth, perhaps a pulptomy at times and in general insert many large restorations, but whatever the time consumption may be the service is a big improvement on extraction with the consequent loss of function, and followed by a spacing appliance. If you please, I'm not wishing to portray a show of idealism, only hoping as Walter McFall would say, "to put in a plug for the child!"

There are types of spacers—and repetitionally, types of spacers. Willet has perhaps been publicized more for his spacing appliances than for any other phase of his work. He, with his overlays and cast bars, has perhaps

been the father of more space maintainers than any other individual and more power to him. His deduction and principle have been paragons, yet in practice many of his recommended appliances have required more than average skill in construction.

Hogeboom and Brauer in their lecture work, and their respective books, have also aroused considerable interest in spacing appliances. Both use a band on two abutment teeth with an intervening bar. Brauer, not wishing to tie up the teeth so to speak, locks the bar lever-fashion on the distal of the anterior band to give freedom of width growth of the arch. The great criticism of the double band attachment type is that if the anterior band must be placed on the cuspid, as is all too frequently the circumstance, the closeness of the bite with the accompanying constant trauma makes its retention a difficult task.

None seem simpler in construction or more generally useful than the band and loop type of appliance, that is, a cast band on the abutment tooth, and a wire loop contoured over the tissue to approximate the surface of the adjacent tooth. In its construction a band for the abutment tooth is cast on the model and is made after the Willlet fashion except that the occlusal portion is cut away in the interest of normal occlusion. The loop may be designed on the same model by using sprue and clasp wax and cast as one piece or, an orthodontic wire may be adapted to a second model with the cast band in place, and soldered thereto. True it will not meet all the demands of the ideal spacer in all places but its simplicity of construction and resultant cost makes it very practical for general use.

Generally, space maintainers are not intended for children with multiple extractions but for those who inadvertently must lose one or two teeth. The child with multiple extractions becomes, as a rule, an orthodontia case. However, I have resorted to denture construction—as have many others—on numerous occasions where four mandibular molars have been lost. In so doing not only the space was maintained but the masticatory function was conserved as well.

As a corrective measure where spacers have not been employed and where orthodontic correction is not possible financially or perhaps not available, one may resort to the occasional removal of maxillary bicuspids. Not in all cases is it practical I assure you, but it is in instances where the molar relationship is normal or near normal and the maxillary cuspids are erupting bucally because of insufficient room. The removal of the first bicuspids in such instances will bring about a reasonably satisfactory result. When this is done a closed mouth impression taken prior to extraction proves an invaluable record for future comparison.

I repeat, I am enamored with the theory surrounding space retention yet grossly disappointed at the curtailment of this splendid service in private practice. Yet as much as I believe in space retention I have not yet come to condone what appears all too prevalent, the retention of infected teeth or

roots in this behalf. One can in a measure, in full or in part, correct the alignment of the teeth later on but there appears no place along the way for the replacement of the immeasurable loss entailed by the harboring of infected teeth in the mouths of growing children. I repeat again also, my respect for the idealism and the practicality of space maintenance and in the same breath my keen disappointment that a service so commendable finds so little acceptance.

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# A FUTURE IN PEDODONTICS

John C. Brauer, Iowa City, Iowa

The practice of pedodontics is rapidly becoming one of the attractive fields, both in the general practice and as a specialty. The general practitioner always will carry the major load in the care of the child, dentally speaking. Since dental decay is almost universal among children, those children in the many smaller cities, towns, and rural areas always will be within the realm of the man in general practice.

The problem of location and the problem of whether to specialize or not to specialize confronts nearly every graduate. Virtually every graduate has thought at one time or another in terms of specialization, and today one of the most popular trends is toward pedodontics. This field claims an appreciable number of men and women who enjoy a high type of clientele and a most successful practice.

Frequently the question is asked, "How large a city must one consider in order to limit ones practice to pedodontics?" The answer to this question becomes a most difficult one in that there are a large number of factors to be considered. The financial structure and incomes of the great bulk of the population play an important part as to the probable success in a given community. The lower the net income of the average citizen, the larger must be the city; for instance, there is no doubt that some cities of 50,000 would afford excellent opportunities, while others of 150,000 might be a poor risk. In certain sections of the country, where dental health education programs have been in progress for a number of years, success could be anticipated in the smaller cities. The future looks much more promising in this latter respect, for nearly every State Department of Health now possesses a dental division which has for its objective, lay education as it pertains to the child.

A number of dental schools now are offering graduate and post-graduate instruction in dentistry for children. A graduate course leading to an M. S. degree requires at least one year of additional work, while courses of two or four weeks' duration in post-graduate instruction usually lead to a certification. One may very profitably obtain a two weeks' or a four weeks' concentrated course and feel that the time has been very well spent.

In addition to the above, there are such dental institutions as Forsyth, Guggenheim, Rochester, and others, that afford interneships of a very helpful and instructive nature to young graduates.

It is the writer's opinion that those dentists interested in dentistry for children have a most optimistic future, both as general practitioners and as specialists. The American Society of Dentistry for Children rightfully can claim to be the motivating agency in the change of attitudes among many in the profession and to the stimulating of lay educational programs.

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## The Importance of the First Permanent Molar

Harry Strusser, New York, N. Y.

**The first permanent molars—**

In Black's dental anatomy the molar teeth are described as specially and particularly designed for grinding or comminuting food; for this purpose they have broad occlusal surfaces broken by ridges, grooves and fossae. The ridges are raised at intervals into powerful cusps which fit with more or less accuracy into the sulci and fossae of the opposing teeth. Two upper first molars, one on each side of the median line and two lower molars, one on each side of the median line with the mesio-buccal cusp of the upper falling in and upon the mesio-buccal groove of the lower first molar when the teeth are in normal occlusion and opposition—The upper being larger than the lower—The size of 42 uppers equals the size of 46 lowers.

Eruption—These permanent first molars are the first of the permanent set to erupt usually when the child is about 6 years of age. It has been shown, however, in various studies of school children that the eruption of the molars as well as other teeth in females may be at an earlier age than is usual for boys and so we may find permanent molars erupting in the female child before it is 6 years of age. This is important especially when we consider that the average age of children in the Kindergarten classes is 5½ years. (It is here too where the most effective preventive service can be rendered.)

Because of the peculiar anatomical formation of the upper and lower first molars, the occlusal and lingual surfaces of the upper and the occlusal and facial or buccal surfaces of the lower are prone and susceptible to decay. The non union of the enamel lobes is very often accompanied by deep fissures or pits which expose the tooth to the microorganisms and other factors usually present in the process of decay.

**Loss of the First Permanent Molar—**

It has been found in a survey made by the U.S.P.H.S. that for every hundred boys with one or more missing permanent teeth there are 98 girls with one or more missing permanent teeth. The more astounding findings were in a survey of the first permanent molars showing the number decayed, missing or filled—

| | 6 yrs. | 7 yrs. | 8 yrs. | 9 yrs. | 12 yrs. | 17 yrs. |
|---|---|---|---|---|---|---|
| Number of children examined | 913 | 1122 | 1116 | 1335 | 1361 | 199 |
| 1 or more decayed, missing or filled | 20.4% | 47.0% | 62.6% | 68.9% | 79.1% | 88.4% |
| 1 or more decayed | 19.6% | 45.1% | 59.6% | 62.6% | 67.5% | 59.7%* |
| 1 or more missing | | .7 | 1.2 | 3.8 | 12.7 | 29.6 |
| 1 or more remaining roots | | .4 | 1.3 | 2.1 | 7.3 | 5.5 |

*It must be noted too that as the age increases we find a greater number of children who have had the first permanent molars filled. The percentage rises from 5% at 6 years of age to 58.6 at the age of 17. Now, mind you, these figures are only related to the first permanent molars. If all the permanent teeth were considered, we would find about 98% of these children who had one or more decayed, missing or filled teeth. In other words only 2% of the children at 17 had mouths that were free from present or past decay. (Bulletin No. 200.)

In a paper presented by Dr. Thaddeus P. Hyatt on the subject of Life Expectancy of the First Permanent Molar we find some very interesting data:

| | | |
|---|---|---|
| Ages | 16-19 | 36% of the first permanent molars missing |
| ** | 20-24 | 41% |
| | 25-39 | 48% |
| | 30-34 | 56% |
| | 35-39 | 61% |
| | 40-45 | 61% |
| | 46-60 | 75% |

**To further explain the above at age 20-24 for every 100 people (400 first molars) records indicate 164 or 41% of the molars missing and a crying need for reparative service for these teeth early in life.

Let me go further. What happens to the remaining teeth? We dentists have always said when patients asked about the spaces left by the extraction of the first molar that the second will move forward and help to close the space. Actual findings, however, do not substantiate the above. In a recent study made at the vocational school by Dr. J. A. Salzmann and presented before the New York Society of Orthodontia and the A.D.A., it was found that there is a movement not only of the molar teeth mesially, but movement of either or both bicuspids and that these movements may be accompanied by other movements such as rotation and inclination. The latter two of the above stated movements are now being further studied and no doubt some very valuable information will be gathered. It has also been shown that the first molar tooth to be lost if there is any loss is the lower left, then follows the lower right, then upper left and finally upper right. * * * It is these cases that usually end by wearing partial and finally full dentures due to these changes and sequence of events following the extraction.—McCall, July-Aug.—N. Y. Journal of Dent. 1936.

It must be remembered that a missing lower first permanent molar not

only causes a disturbance in the lower jaw, but also a marked disturbance in the same region of the upper jaw. It may also cause a change in the anterior teeth, namely, a shift distally of all teeth anterior to the first permanent molar space and a shifting mesially of the teeth posterior to the missing tooth. We may therefore have a marked malocclusion on one or both sides of the jaws.

I shall not accentuate but merely mention the marked changes that may be begun as a result of the loss of the first permanent molar—the elongation of the opposing teeth, loss of point of contacts, the pushing of food interproximally—inflammatory condition of the gums rendering the rest of the teeth more susceptible to caries because of the lack of natural protection of interproximal surfaces.

And so to conclude:

1. It is very necessary to care for these teeth (first permanent molars) as early as possible. A very careful and thorough examination at 6 years of age is not too early. Then too, the anatomy of the occlusal surface must always be kept in mind when reparative or preventive measures are resorted to. It is not advisable to leave parts of these anatomical abnormalities uncared for. If a fissure must be filled, the entire fissure should be taken in, not only the portion that has been affected.

2. We must make sure that the protection of the pulps of these teeth is complete. That sterilization has been carried out after the decayed portion has been completely removed and cement linings inserted.

3. The restoration is properly inserted, carved and polished, restoring the natural prominences, grooves and other anatomical markings. Care must be taken that there are no hinderances to the forward, backward, or lateral excursions of the mandible. You very often find highly polished spots on a metal filling or inlay. That shows that there is an interference—that's what we call high spots and they should be polished off and removed. We cannot tell immediately what effects these high spots have in any particular case, but if you have read Gottlieb, who has made a special study of such conditions and their relation to periodontic lesions, you will understand what may happen.

4. If the condition of the first permanent molar is such that it must be extracted, then by all means advise the replacements or the stabilization of the normal relationship now existing. Space maintainers.

And so, I hope that I have impressed the importance of maintaining the life of first permanent molars that you will make every effort to carefully examine and check the susceptible areas of these teeth as early as possible. That the reparative processes when carried out will be thorough and that systematic and regular check-up will be conducted to reduce these percentage tables that I have read to you and to increase the life expectancy of the first permanent molar, thereby assuring less susceptibility to decay of the other teeth, less abnormalities and less periodontal lesions.

# The Value of Employing the X-Ray in the Efficient Practice of Dentistry for Children*

Paul G. Spencer, Waco, Texas

The main objective of dentistry is directed toward the elimination of dental ills. Organized dentistry overcomes the defects of limited individual effort, and provides for a unified, more helpful collective effort. The slogan of the national organization has been for the past few years—"Prevention." Naturally an anomaly or defect cannot be prevented after it has occurred; hence "Dentistry for Children" assumes a most important position in the practice of every progressive dentist. This section will take up the various plans, methods and procedures which appear to be the most practical and efficient to follow. The topic assigned to me is a discussion of the X-ray as an aid to us in our effort to prevent certain dental ills.

The dental profession has reason to be proud of the great progress made to relieve the dental ills of mankind. Only the past month the profession celebrated the 100th anniversary of the establishment of the first dental college in Baltimore, Maryland. Greater progress has been made during the past twenty-five years than in the combined previous period. At present, we probably progress more each year than in the preceding five-year span. The principal fault; if any can be found, which might be held against the profession is the method of approach which has been made to combat dental ills.

In the beginning, as the Good Book says, when pain occurred, extraction was resorted to; naturally the construction and placing of artificial dentures, plates, became the major follow-up requirement. Then followed the period of attempting to save and restore every tooth, or tooth root, regardless of the pathology involved. Decay was, and still is, combatted by removal of the defective tooth structure, being replaced by restorations, composed of various materials. We note then that the effort made to prevent dental ills becomes at last the main objective, however, if we believe that a stitch in time, etc., should be the rule, prevention should have been the first objective. The cause of decay is, as yet, unsolved. Until recent years the effort to solve this problem has been based on superficial theories, but progress is being made, however, in the meantime the X-ray serves very efficiently in disclosing the extent of decay and often locating unsuspected approximal decay.

The most underestimated and the least understood problem in "Dentistry for Children" today is the failure to lose the deciduous teeth in the normal manner and regain the permanent teeth in proper sequence. This statement will be doubted, mainly because of this misunderstanding. Timely loss and replacement is considered of little importance, mainly because of the belief that Nature will attend to this detail if we happen to overlook our responsibility.

*Read before a joint meeting of the Texas Society of Orthodontists and the Texas Unit of the American Society of Dentistry for Children.

One readily admits that Nature knows considerably more about the procedure than we do. My comment is caused by the fact that, too often, it is the things we do, or the hindrances that our present environment provides are such, that Nature cannot follow her ideal plan.

There is a definite reason for the proper removal of each deciduous tooth. Owing to the wide variance in arch development, or we might add the individual differences in child growth, the time of removal cannot be standardized or regulated according to age. The X-ray provides us the means of properly determining when deciduous teeth should be lost or removed.

Time does not permit a full discussion of this topic. There is, in a way, certain general rules, but the topic cannot be understood, and appreciated, unless it is taken up under a study club plan or extended group study, for we have a large group of diversified individuals with each classification presenting a different problem.

Congenital absence of permanent teeth occurs quite frequently. Early recognition is of great importance. The X-ray offers us the only method to establish, or determine this anomaly. Any case of missing permanent teeth presents a difficult problem, however, when one or more permanent teeth are congenitally absent, there is one good rule to follow, *i.e.,* maintain the spaces for missing anteriors and close spaces for missing posteriors. Many assume that when our X-ray findings disclose an absent tooth, that the deciduous tooth must be retained, indefinitely, at all costs. This is far from true. We note that the maxillary lateral incisor is probably the permanent tooth which is most often absent. In a majority of these cases it is of course important to retain the deciduous lateral incisor as long as possible, but it is equally important that the deciduous canine be removed, often ahead of time. This will aid in the early eruption of the permanent canine into a more normal position. Overlong retention of the deciduous canine, or even retention of the canine for its usual alotted time will, in a majority of cases, permit the permanent canine to drift toward the median line, as a result of the permanent lateral being absent; this then permits or aids in more rapid resorption of the root of the deciduous lateral with the permanent canine erupting into the position which the permanent lateral should have occupied. Premature extraction of any deciduous tooth should be accurately determined. The X-ray is vitally necessary.

Removal becomes one problem and normal retention is another, yet each go hand in hand and apply with marked differences to the various groups of children. The point, however, which I wish to stress is that any effort to solve either the problem of removal or retention becomes guess work, unless we depend upon and utilize the X-ray.

The dental X-ray examination, made before the age of five, preferably by four years of age, will probably be of more value than any future dental X-ray view that may be made for that individual. This is a broad statement, but if we analyze it, the truth becomes apparent.

It has been said, and I believe rightfully so, that 50% of malocclusions occur as a result of lack of attention to the deciduous denture. This does not mean because of the need to apply some type of mechanical apparatus, but it does mean the failure to fully understand the value of timely removal of the deciduous denture, and equally the value of proper retention.

With congenital absence of one or more posterior teeth a somewhat different problem is presented. If we accept the belief that posterior spaces should be closed, the deciduous tooth, which fails to have a successor, should be removed a considerable time before it would normally be lost. The practice of retaining the deciduous posterior teeth indefinitely in case of congenital absence is never indicated for several very definite reasons. The second mandibular deciduous molar, for example, has a greater mesio-distal width than its normal successor would have; hence retention would disrupt the future occlusion of at least one-half of the denture; also the plane of occlusion of the deciduous denture is decidedly different than is the plane of occlusion of the permanent denture. Retention of a deciduous molar would not supply as efficient cuspal relation as would removal and closure of space.

These few examples are mentioned only to show that there are many helpful ways in aiding Nature when anomalies occur, but aid cannot be intelligently rendered without desired information being given by necessary X-ray examination.

Another anomaly which might be mentioned is supernumerary teeth. The principal trouble which arises from the presence of supernumerary teeth is delayed eruption or deflected eruption of the permanent teeth or teeth in that area. The earlier that this condition is disclosed by the X-ray, the greater opportunity we may have to aid. While it is possible that there may be some exceptions, I have yet to see a case wherein prompt removal of the supernumerary tooth was not indicated.

It has been recorded that some 70 to 80% of children now suffer from some dental ill or defect. Probably 50% of this total could have been prevented or greatly minimized, at a comparatively low cost, as compared to future requirements, if proper "preventive" measures had been applied.

The normal position of teeth is of course very desirable. The desire to gain some improvement in appearance is probably the principal reason that the patient or parent seeks treatment, but of far greater importance, normal position provides an efficient dentition for mastication and aids in attaining better oral health.

Any discussion of dentistry for children eventually leads to the cause and possible method of correction of malocclusion. The etiology is certainly not known definitely, but we do know many contributing causes, many of which can only be disclosed by the X-ray.

In any systematic plan of prevention, the general practitioner or those who devote any part of their practice to children, must assume leadership. They must see and gain the confidence of the child long before the incidence of dental pain has occurred. It is during this period when the early dental

X-ray record is obtained. It is inexpensive as three bite-wing views will often be ample. Naturally the early observation period will be of little value to the patient or to the dentist unless the operator is fully aware and understands the individual normal and is able to note defects. The elimination of pain and removal of decay followed by efficient repair are important, but are not of greater importance than observing growth. In this the X-ray continues to serve efficiently.

This phase of dentistry offers the greatest field for service today, and properly attended, offers a greater financial return than any other phase of dentistry.

If you believe this means working for children who are in pain, or for those whom you do not take the little time necessary to gain their confidence, you are in error. Properly handled, the child makes not only the best patient, the most appreciative and certainly takes less of our time and energy, both mental and physical, than the adult patient.

I am certain during this rather rambling discussion that each of you have mentally noted many additional conditions wherein the X-ray offers aid to us, such as the various problems incident to accident, trauma, premature loss, where it is very important to know the position or stage of eruption of the successor teeth; evidence that corresponding deciduous teeth in the same mouth show a wide range difference in root resorption; that the roots of non-vital deciduous teeth are seldom resorbed. However, in the papers previously presented and in others to be presented today and later in class study, many of these points have been or will be discussed more fully, and many other methods for helpful application of the X-ray will be made.

I cannot overlook this opportunity to stress the fact that the prevention of malocclusion offers a great field to the general practitioner. He has been so wrongfully taught in the past that orthodontics is a very mystifying procedure; and that the final cure-all is the application of some magic mechanical appartus. As previously inferred, each practitioner can, each year prevent or minimize more malocclusions without extensive mechanical devices than the average orthodontist can treat in five years time. Of equal importance he will receive a far greater financial return for the time given to the treatment of the usual or commonly recognized malocclusions which so many endeavor to treat.

Please understand and receive this statement in the same spirit in which it is being given.

Even though there are many many more cases of malocclusion being treated in our state today by the general practitioner than by those who limit their practice to orthodontics, the following facts hold true:

(1) No type of appliance used today is the final cure-all.
(2) Any practitioner who can properly place an inlay, can construct an appliance, providing he gives it proper study.
(3) The construction and placing of any appliance is of far less importance than the ability necessary to manipulate it.

(4) That no practitioner, even those who may limit their practice, have a moral right, even though they may have a legal one, to place an appliance, without a rather comprehensive understanding of what would be helpful, and realize the full possibilities of accomplishment.

(5) Thousands of children in our state need help, each year there are added thousands, therefore there is no shortage in the endless supply to the successful practitioner, but progress will not be attained by locking the barn door after the horse is stolen.

Many of those who limit their practice to orthodontics have reason to be proud of the advances made in this phase of dentistry during the past twenty years. Due to their realization that their problem was not a mechanical one only, they have equally benefitted other phases of dentistry, until we all now understand that dentistry does not begin at the occlusal surfaces of the teeth and end at the gingival portion.

One can be equally truthful and say that no other phase of dentistry has been so prone to follow isms, fads and unsound theories. We pretend to speak knowingly of growth, yet disregard the value of normal function. Some claim to be able to predetermine arch form and position, yet if this were possible, one could as easily and accurately predetermine the future height and weight of the individual. Growth cannot be predetermined. It is not constant nor has it a definite and continued direction. Examine the endentulous mouths or the casts of several hundred endentulous mouths of new borns, make a similar examination of endentulous adults, not of one race, but many, and note the wide variations in type and form. Then note the high percentage of delightfully efficient deciduous dentures, under four and four and a half years of age, which also have marked variations. Then let us recall that history tells us that man has been on earth several million years, and Nature may know more about locating the denture than we do, and finally let us try to remember, believe and understand that, while we may move teeth almost as we desire mechanically, that normally, teeth are in constant motion, individually, and also incident to the changes in their supporting structures; (they may appear to be very stable during extraction), that teeth will only adapt themselves to these changes, providing such positions are acceptable to their supporting structures. Locating the denture in a definite position in regard to the skull is a mythical fantasy, for Nature does not require or permit the right and left halves of the denture, the face or the entire individual to be exactly similar.

Careful X-ray observation of the supporting structures of those teeth which are banded for massed movement or a fixed attachment for individual tooth movement will give definite evidence that such application of force is detrimental.

In any event, it is very evident that the X-ray is definitely necessary in every dental office and as important in the practice of Dentistry for Children as it is for adults.

# What, In a Child's Dental Office Behavior Would Indicate That He Should Be Referred to a Mental Hygienist

F. A. Bull
State Department of Health, Milwaukee, Wis.

The management of children in the dental office has been well covered in dental literature by many of the outstanding pedodontists. Their work has lead to generally improved office management of young patients and to a greater interest in dentistry for children by the profession as a whole. Many children are behavior problems to a greater or less degree and to be able to manage these children successfully is now essential in most dental offices. Child psychology is being put into actual practice today by many successful dentists.

However, there are some children who come to the dental office whose management is beyond the dentist. These children should be referred to a mental hygienist for diagnosis and treatment. Some atypical children are so because of poor hereditary endowment in physical intellect and constitution and others have acquired their disability through disease processes, infection or accident. Others are handicapped because of poor habit training and exposure to unwholesome adult example in emotional behavior, such as exhibtion of unnecessary fear, anxiety, worry, parental disharmony, or lax ethical and moral standards.

In this atypical list are children with whom it is hopeless to expect a dentist to cope adequately. The problem is to be able to recognize such a child and promptly refer him to a mental hygienist for diagnosis and treatment.

W. B. Cannon warns that not every child who is fearful, excitable or unmanageable can be classified as a badly spoiled, mean tempered little imp in need of training. Occasionally dentists are confronted with a child who, because of disturbed internal chemistry, is driven to extreme behavior disorganization by imperative internal stimuli over which he has no possible voluntary control. Hypoglycemia, calcium deficiency, oxygen deprivation, infection, and indigestion may be the cause of his behavior. The behavior reactions of such a child may be greatly exaggerated by or entirely induced by environmental situations which involve turmoil, excitement, or danger.

The purpose of this paper is to set up a simple standard by which the dentist may appraise an atypical child through his behavior in the dental office and may promptly refer that child to a mental hygienist if such service seems to be needed.

Fortunately only a fraction of one per cent of children come under this atypical classification. Dentists, however, have no right to shirk their responsibility to these unfortunates. Dentists frequently have the first opportunity

to render a service for such children and are frequently the first to see other constitutional or systemic conditions.

The behavior of most children is the result of the interaction between the entire situation in which they find themselves and their entire personality, which, in turn, has grown out of their entire past experiences. If the home environment is bad the child is often a behavior problem in the dental office. The behavior of most children can be managed generally by the dentist. Sympathy, physical comforts to help them relax, making children feel secure by thoroughly acquainting them with the mental situation and a general effort to ease children's tension will effectively handle these cases. When a sincere effort over a period of time has been made to handle such children and the effort fails, then these children should be sent to a mental hygienist.

As was stated earlier in this paper many behavior problems are not the results of mismanagement or misunderstanding, but the results of poor heredity, disease processes, glandular disturbances, infection or accidents. All of these children should be immediately referred to a mental hygienist. Again the question arises, "How is the dentist to recognize these children by their behavior in his office?"

Nervous fainting spells, severe headaches and loss of consciousness can be considered as indications to refer the child to a mental hygienist. Any markedly changed behavior in a child following traumatic injury or severe illness should likewise be an indication to refer the child to a mental hygienist. This changed behavior may be the result of over attention by the family during the period of convalescence, but it may be the result of impaired body function due to the injury or disease. Excessive restlessness, ordinary fear, rage or a "spoiled child" are not of great concern but when these traits are coupled with excessive solitariness, uncooperativeness, hostilities in companionship, wandering, dishonesty, absentmindedness, or "white lying," there is occasion for real concern and the child should be referred to a mental hygienist.

Chronic irratibility, a tendency to blame others, exaggeration of illness, and unjustified attitudes of hostility, suspicion and jealousness, indicate that a child should be examined by a mental hygienist.

It might be well to explain here the difference in behavior between a backward child and a mental child. The backward child is characterized by the things he doesn't do. The mental child by the things he does.

Any child who is disabled in the proper use of speech should be referred to a mental hygienist.

Any child who either by his behavior or appearance in a dental office shows the characteristics of a moron should immediately be sent to the mental hygienist. Placid, vacant, stupid appearance, restless movements, aimless movements of the hands, poor hand control, drooling, open mouth and protruding tongue are the characteristics of the moron. Morons frequently go into tantrums, arch backward, have convulsions, and are antisocial. The imbecile and idiot types are easy to recognize and should be

referred to a mental hygienist.

There are other children who although they may not present any behavior problem to the dentist during their appointments should be referred to a mental hygienist for preventive treatment. For example, a child with an enlarged thyroid gland or glandular disturbances, severe rickets, Hutchinson teeth, abnormal head, pendulous abdomen, saddle nose, epilepsy, St. Vitus dance or chorea are indications for the mental hygienist's examination.

Mental conditions depend to a great extent on physical conditions and it should be noted that most authorities consider infections, including dental infections, as serious factors in mental conditions. The interrelationship in physical, mental, social and emotional development is a most complex one and when there is a serious derangement of this interrelationship, the services of a mental hygienist are required if corrections are to be secured.

Dentists should not feel that they are simply getting rid of a behavior problem by referring the child to a mental hygienist. A casual review of case histories of these atypical children will show that a surprising number of behavior problems can be corrected when diagnosed and treated by the mental hygienist. The great importance that the mental hygienists place on mouth infections as contributing causes should arouse the dental profession to its responsibility, not only to refer these cases to the mental hygienist, but likewise to assist in the treatment and prevention of them.

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# The Results of Early Loss of Deciduous Teeth*

G. C. Turner, Lubbock, Texas

There is an old story about an ambitious young clergyman who was asked to arrange a fifteen minute noon-day service. He announced that the program would consist of several old hymns, a prayer, and an address on the seven great religions in the world. I felt almost as ambitious when I acceded to a request for a presentation of my subject in the short time alloted to me.

As I speak to you, I feel very much like a guide in a museum trying to show to a group of visitors the treasures of the building, but provided with only a small box of matches in the way of light. He would strike a match, hold it for an instant before a picture or a statue or a case of jewels, and then it would flicker out, and another match, in the same feeble way would provide just the hastiest glimpse of another beautiful and valuable object. So I, trying to tell you a little of a subject which is so broad, can only give you a bare and rather kaleidoscopic introduction. I do it with the hope that something that I say will make you want to know more and to follow through some of the roadways of thought to which I can barely point.

Ever since man has walked on the face of this earth, war and dental caries have been part and parcel of his existence. War implements have been found in excavations of all pre-historic cities, and the ravages of dental disease have been found in most skulls of ancient man.

The best minds in the dental profession have constantly and unequivocally agreed that the best single means in the eternal war against tooth caries is early dental care. Medicine has provided various preventive measures such as the Schick test for diphtheria and vaccinations against smallpox; but until some such immunization process is discovered for protection against dental ills, early dental care must remain the weapon of defense against bad and aching teeth, abscesses and unhygienic mouths.

The profession of dentistry feels that healthy teeth are essential to the maintenance of a real sense of health security. Because early dental care is of inestimable value and because prevention is always far better than cure, dentistry has adopted as its slogan "Conservation of Teeth" rather than "Restoration of Teeth."

Most parents are desirous of having their children develop health, beauty and personality. These are three of the greatest assets which bless human beings. One of the most important factors in developing either beauty or personality is good health during the developing stages of the individual.

In judgment of personality it has often been said that the face is the most important structure of the human body. Of course, that statement probably is true since it is the only part of the body exposed to observation. There is no question but that a mal-formed facial structure is a great handicap to the success of every individual.

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*Read before a joint meeting of the Texas Society of Orthodontists and the Texas Unit of the American Society of Dentistry for Children.

Two important organs of the face, which play such an important part in facial development, are the oral structures or tissues and the nasal structures or tissues. Both are essential in contributing to the life and health of the individual; the mouth and teeth, however, contribute more beneficial or detrimental factors than the nasal tissues.

Dentistry for children is not a fad; it is not a whim, nor should it be a temporary procedure in caring for the deciduous teeth. It should be our professional duty to guide children, dentally, over that period of life in which the deciduous teeth must function in a healthy condition. This period has a greater health bearing on the child and is more important than guarding the dental health of adults.

Educating parents to the value of dentistry for children is just as important as actual dental operative care; we need the personal cooperation in the treatment of each case. If we cannot prove to the parents that there is a health and comfort value to their child from caring for the deciduous teeth, then children's dentistry will continue to drift along as in the past.

The teeth of a child should be most carefully watched for the beginning of caries, in order that large, painful cavities may be avoided. The molar teeth are usually the first to be affected. Watch for inter-proximal caries as brown discoloration deep down in the little grooves or fissures on the crowns of the teeth.

Every tissue of the body, except the teeth, is repaired by nature when it is injured. If a fingernail is broken, a new nail grows in; if a piece of skin is scraped off, new skin grows in its place. But when a tooth is broken or its substance destroyed by caries, abrasion, or erosion, there is no normal provision for repair, and the tooth remains permanently injured.

The deciduous teeth are intended to serve the purpose of chewing food during the period of the growth of the jaws. Proper and efficient mastication is required as the first stage in the process of digestion. Unless solid food is macerated by the teeth and thoroughly mixed with saliva, the digestive juices of the stomach and intestines will not be able to dissolve it completely. Thus, part of its nutritional value is lost and digestive disturbances are induced. Every child should be trained and encouraged to chew every bit of food before swallowing it.

The jaws in which the teeth are arranged are subject to continuous change. They continue to enlarge the same as other bones during the growth of the body.

Soon after the completion of the first, or deciduous set of teeth, spaces begin to form between them. Under normal conditions they continue to enlarge until the second or permanent set of teeth come through. This is sometimes a source of unnecessary anxiety to parents who do not understand the changes taking place.

As every one knows, the permanent teeth are much larger than the deciduous teeth. From birth, the permanent teeth, are being formed in the jaws, beneath the roots of the deciduous teeth, which they are to replace; in order for them to come into their normal positions the jaws must grow

considerably and this is what causes the spaces to appear.

After the completion of the decisuous set, they must all serve four years, and some of them must last until the child is eleven or twelve years old. Hence it is of the utmost importance that they should be kept clean and carefully watched for evidence of decay.

If the deciduous molars are kept clean and deep decay is avoided, they will not be lost until the permanent teeth are ready to erupt, but in the event of loss of contact occurring from decay, then that portion of the tooth should be restored to its normal contour as near as possible with some suitable material. If the decay has progressed too far and the tooth is lost, from this or other causes, then a space maintainer should be placed to keep the teeth from drifting or moving into this space. This will aid the natural growth of the jaws and irregularities will not be so liable to occur. But the permanent loss of even one deciduous tooth may start an irregularity which will be expressed not only in the permanent teeth, but in the whole facial expression.

Irregular teeth causes irregular jaws; irregular jaws cause irregular faces; irregular faces cause unnatural expressions. Children often suffer untold cruelty from the jibes of their associates because of this chain of abnormalities. Such epithets as "jimber-jaw," "hatchet face," "Andy Gump" or "Buck tooth," will be avoided by the child if his teeth are regular. The care of all the deciduous teeth is important, because they affect the growth and spacing of the second set.

A lost tooth is a lost friend. When a tooth is extracted, a gap is left in the chewing machine. The work of the missing tooth, therefore, must be done by those on each side. These teeth may be pushed into a crooked position because the gap leaves nothing to support them.

In closing, let me make the prohpecy: that in years to come when the history of this age is written by the impartial thinker, who at that distance of time may be able to gain a right perspective and may then be able to say which were the most striking features in physical development, it may be that he will point to the birth of our new interests in preventive child dentistry as being among the events of first importance.

# A.S.D.C. News and Activities

## A Message from the Secretary

### NOTICE TO STATE UNIT SECRETARIES

One of the duties of the secretary is to "keep his fingers on the pulse" of the State Units. In my effort to do this, letters have been written to the last known secretaries of each State Unit requesting verification or correction of the there-in listed officers of their unit and the addresses of these officers. To date we have heard from but four units in this respect. If you as secretary of your unit have not yet complied with above referred to request please do so at your earliest convenience.

Another of the secretary's problems is that of collection of annual dues. All members will have received statements notifying them that their annual dues of three dollars are again payable. The same system for paying dues will be followed this year as has been employed in the past two years—if you have a unit in your state, please send your dues to your unit secretary. This will enable each unit secretary to keep a more accurate record of the memberships in your state. In states without units A.S.D.C. members should send their checks directly to the secretary of the parent body.

In this connection I wish to call your attention to Sections 1, 4, and 5 of Article II of the By-Laws:

Article II.

Section 1. Dues for active members shall be three dollars per year, payable the first day of January. Each State Unit shall pay, on or before April 1, three dollars to the Secretary of this Society for each active member.

Section 4. Any member, not a member of a component unit, who becomes delinquent in the payment of his dues shall be notified by the Secretary at the end of sixty days. Should he continue to be delinquent for thirty days thereafter, his membership shall be declared forfeited.

Section 5. Dues of new members paid at the time of or following the annual meeting shall apply as of January the first following.

The accomplishments of *your* organization during the past year have been most worthwhile and have attracted extensive favorable comment and appreciation from worthwhile bodies and agencies. This is due alone to YOUR efforts of which you should be proud and in which you should be even more eager to participate during the coming year.

Your Secretary trusts that each individual member has enjoyed a most happy holiday season and may be favored with a new year of abundance in health and realization of professional ambitions.

DR. R. M. ERWIN, JR., *Sec'y, A.S.D.C.*,
613 Corbett Bldg., Portland, Ore.

# The Treasurer's Report

**September 8, 1940**

| | | |
|---|---|---|
| Balance brought forward | | $1,427.53 |
| Checks deposited from July 17, 1939 to Sept. 8, 1940 | | 1,645.53 |
| | | $3,072.58 |

EXPENDITURES

| | | |
|---|---|---|
| Review— | | |
| Owl Printing Co., October 24, 1939 | $ 90.16 | |
| Owl Printing Co., January 25, 1940 | 123.11 | |
| Owl Printing Co., May 22, 1940 | 125.22 | |
| Owl Printing Co., August 7, 1940 | 114.49 | |
| | $452.98 | |
| Secretarial Expense— | | |
| Dr. R. Ireland, July 17, 1939 | $ 28.25 | |
| Dr. R. Ireland, July 28, 1939 | 72.35 | |
| Dr. K. Lux, August 7, 1939 | 17.50 | |
| Dr. J. Brauer, August 19, 1939 | 15.00 | |
| Dr. R. Ireland, December 16, 1939 | 49.70 | |
| Dr. R. Ireland, Feburary 20, 1940 | 72.42 | |
| Dr. R. Ireland, April 15, 1940 | 51.70 | |
| Dr. R. Ireland, June 11, 1940 | 37.75 | |
| Dr. R. Ireland, August 7, 1940 | 23.78 | |
| Dr. K. Lux, August 21, 1940 | 16.50 | |
| | $384.95 | |
| Treasurer's Expense, August 7, 1939 | 1.00 | |
| Misc. Expenses from July 17, 1940 to Sept. 8, 1940 | 510.72 | |
| Total Receipts | | $3,072.58 |
| Total Expenditures— | | |
| Review | $452.98 | |
| Secretarial Expenses | 384.95 | |
| Treasurer's Expenses | 1.00 | |
| Misc. Expenses | 510.72 | |
| Returned Check | 3.00 | |
| | | 1,352.65 |
| Balance | | $1,719.93 |
| Outstanding Check | | 2.00 |
| Bank's Balance, September 8, 1940 | | $1,721.93 |

Audited and approved September 9, 1940.

GUY W. PATTERSON,
CHESTER J. SCHULTZ.

## From the Missouri Unit:

New Officers are—President, Dr. Ruth Martin; Vice-President, Dr. Walter Ford; Secretary-Treasurer, Dr. Earl Shepard.

Members of the Missouri Unit sponsored the November Meeting of the St. Louis Society of Dental Science. The following members participated in the program:

Essayists—Dr. Genieve Riefling, Dr. Ruth Martin.

Clinicians—Dr. F. Rich, "Cavity Preparation"; Dr. C. Thompson, "Pulptomy"; Dr. J. W. Ford, "Reinforced Matrix for Amalgam Restorations"; Dr. T. Thompson, "Ammoniacal Silver Nitrate"; Dr. J. C. Gordon, "Amalgam as a Filling Material for Deciduous Teeth"; Dr. R. A. Harris, Jr., "Cast Restorations and Space Maintainers"; Dr. R. Martin, "Fractured Anteriors"; Dr. E. E. Shepard, "Preventive Orthodontics."

The Membership Committee is endeavoring to increase the membership list to reach an all time high by the time the next Missouri State Dental Meeting is held.

The Program Committee have arranged an interesting and instructive program for the year.

Dr. Russell Wheeler on "Morphology of Deciduous Teeth";

Dr. Hamilton B. G. Robinson, "Diseases of the Soft Tissue in the Mouths of Children";

Dr. C. E. Presnell, "Dental Health from the Public Health Point of View";

and other essayists to speak on subjects that will be varied and interesting to all.

Dr. Genieve Riefling, St. Louis, and Dr. John Clayton, Kansas City, participated in a seminar in Dentistry for Children sponsored by the Dental Health Division of the Missouri State Board of Health.

Dr. Ruth Martin conducted a three-day refresher course in Dentistry for Children in Chicago, Illinois.

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## 1940 Program of the Michigan Unit

**FIRST MEETING**

**October 16, 1940. Stockholm Restaurant, 1014 E. Jefferson**

"PROFESSORS QUIZZED"

Dr. L. A. Cadarette ..... Operative Dentistry
Dr. C. Taylor Hall ..... Oral Surgery
Dr. W. C. McBride ..... Pedodontics
Dr. S. J. Lewis ..... Orthodontics
Dr. J. H. Pear ..... Dental Medicines and Root Canal

SECOND MEETING

**November 13, 1940, Stockholm Restaurant, 1014 E. Jefferson**

Speaker and Subject

Dr. Emory Morris ..... The Program of the Kellogg Foundation

THIRD MEETING

**February 5, 1941, Stockholm Restaurant, 1014 E. Jefferson**

ROUND TABLE DISCUSSION

Leader and Subject

Dr. Phillip Jay ..... Summary of Dental Caries Research
Dr. Katharine Greene ..... Child Psychology
Dr. Don Belanger ..... Oral Surgery

FOURTH MEETING

**March 5, 1941, Stockholm Restaurant, 1014 E. Jefferson**

CLINICS

Clinician and Subject

Dr. W. R. McInnes ..... Visual Education in Economics
Dr. Bruce Cook ..... Local Anesthesia
Dr. Don Bills ..... Operative Dentistry

FIFTH MEETING

**Date (to be announced later), Statler Hotel**

Speaker (To be announced later)
Election of Officers

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## Program and Curriculum of Conference Institute for the Study of Dentistry for Children Held at the College of Dentistry, University of Southern California. July 15-20, 1940.

**MONDAY**

| | |
|---|---|
| 8:30 | Registration. |
| 9:00-10:30 | Anatomy of Juvenile Head and Neck. (Dr. Spencer R. Atkinson) |
| 10:30-12:00 | Growth and Development of the Child Embryological and Histological. (Dr. Albin Oppenheim) |
| 1:30 | CLINICAL PROCEDURES |
| | (a) Cavity preparation in deciduous teeth. (Dr. Floyde E. Hogeboom) |
| | (b) Filling materials. |

| | |
|---|---|
| 3:00-5:00 | CLINICAL PRACTICE |
| 8:00 | Diagnosis of Occlusal Relations and Developments. (Dr. Wm. P. Harrison) |

**TUESDAY**

| | |
|---|---|
| 8:30-10:00 | Normal Physiology of Digestion. (Dr. J. Walter Reeves) |
| 10:00-12:00 | Newer Knowledge of Dental Nutrition and its use as a preventive measure against dental caries. (Dr. Harold F. Hawkins) |
| 1:30 | CLINICAL PROCEDURES<br>(a) Care of First Permanent Molar. (Dr. E. M. Jones)<br>(b) Use of Ammoniacal Silver Nitrate. (Dr. B. Z. Rabinowitch) |
| 3:00 | CLINICAL PRACTICE |
| 8:00 | Some phases of Clinical Pathology of Childhood. (Dr. Julio Endelman) |

**WEDNESDAY**

| | |
|---|---|
| 8:30-10:00 | Methods of Space Maintenance. (Dr. John C. Brauer) |
| 10:00-12:00 | Laboratory Technic. |
| 1:30 | Pedodontic and Prosthetic Appliances for Missing Teeth. (Dr. F. E. Hogeboom) |
| 3:00 | CLINICAL PRACTICE<br>NO EVENING SESSION |

**THURSDAY**

| | |
|---|---|
| 8:30-10:00 | Root Canal Therapy in Deciduous Teeth. (Dr. John E. Gurley) |
| 10:00-12:00 | Laboratory Technic. |
| 1:30 | Anesthesia, Extraction, Surgery for Children. (Dr. C. Fordyce Nelson) |
| 3:00 | CLINICAL PRACTICE |
| 8:00 | Public Dental Health Administration. (Dr. John C. Brauer) |

**FRIDAY**

| | |
|---|---|
| 8:30-10:00 | Radiography in Children. (Dr. John E. Gurley) |
| 10:00-12:00 | Laboratory Technic. |
| 1:30 | Care of Fractured Incisor Teeth, and Restorative Procedures. (Dr. F. E. Hogeboom) |
| 3:00 | CLINICAL PRACTICE |
| 8:00 | Dental Economics and Office Management. (Dr. Charles A. Sweet) |

**SATURDAY**

| | |
|---|---|
| 8:30-10:00 | Dental Health Education in California. (Dr. M. I. Scott) |
| 10:00-12:00 | Summary. Table Clinics and Seminar. |

# In Iowa

## Post Graduate Courses in Dentistry for Children

Dentistry for children is rapidly assuming a very important place in the everyday practice of dentistry. Dentistry for children does pay, not only in the actual work completed for the child, but because it creates a continued service for the particular individual and for the entire family.

The State Department of Health, through its commissioner, Dr. Walter L. Bierring, through Dr. J. M. Hayek, Director of Maternal and Child Health, and through Dr. Olin Hoffman, Director of Dental Hygiene, is desirous of furthering the opportunities and advantages of the dentists of Iowa by sponsoring post-graduate courses in Dentistry for Children. The State University of Iowa, College of Dentistry, has also signified a desire to cooperate in bringing such instruction to the dentists of Iowa.

In accordance with these plans, the State Department of Health has set aside a sum of money which will permit 45 to 48 men to take a week of post-graduate work in pedodontics at the State University of Iowa. The only expense to the individual dentist will be that connected with his transportation, board and room. A list of instruments and materials will be sent to those accepted for the courses, and these the operator will be expected to bring with him.

The Oral Hygiene Committee of the Iowa State Dental Society is heartily in favor of this cooperative project. The selection of students will be based on the geographic distribution and concentration of dentists throughout the State. In as many cases as possible and where it is practical, one man will be selected from each district, with six men at large, making a total of 16 students. Three courses will be given each year. The first will be presented the week starting September 30, the second during the latter part of January, and the third during the latter part of May. The exact dates will be listed as soon as the clinical schedules for the year are completed.

All instruction will be under the supervision of Dr. John C. Brauer, who will be assisted by his staff. The student will be permitted to work with the child patients, thereby receiving first-hand help and advice which is not obtainable through the medium of lecture method alone. Laboratory work will be included, consisting of the construction of cavities and different types of space retainers on models. The following clinical and lecture work will be presented.

### Clinical Work

1. Complete examination and record.
2. Preparation of cavities in deciduous and young permanent teeth.
3. Making and fitting an economical but practical matrix.
4. Insertion and finish of amalgams.
5. Making a space maintainer which will afford function and allow growth.
6. Complete technic for partial pulpectomy in deciduous teeth.

7. Miscellaneous operative procedures.
8. Hospital routine in preventive dentistry and a review of cases.

**Lectures**

A series of twenty lectures will include the following:

1. Early development periods of face, teeth and body.
2. Management of children.
3. Examination of the child patient.
4. Cavity preparation in deciduous and young permanent teeth (central and first molar).
5. Filling deciduous and permanent teeth.
6. Construction and application of space maintainers.
7. Root canal therapy in deciduous and young permanent teeth.
8. Minor oral surgery.
9. Habits.
10. Preventive orthodontics—Dr. Higley.
11. Anomalies.
12. Fractured anteriors.
13. Problems in public health dentistry.
14. Business fundamentals in the practice of dentistry for children.

Any practitioner in Iowa who wishes to take part in such post-graduate course should please notify Dr. Olin Hoffman, State Department of Health in Des Moines, at once. The applications will be accepted in the order in which they are received, so that the first letters which come in will be given the preference.

The applicant should also specify his choice of dates, whether he would like to come in September, during the latter part of January, or during the latter part of May.

Whether or not these courses will be continued in the future, will depend largely upon the response which is received from the dentists.

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**Dr. Mary H. Westfall, of Indiana, Dies . . .**

We learn with regret of the death of Dr. Mary H. Westfall, of Indianapolis, Indiana, on August 4. Dr. Westfall died at the age of 59 after a prolonged illness.

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**Dr. Dittmar Honored . . .**

The faculty and alumni of the University of Illinois, College of Dentistry, will tender a testimonial dinner to Dr. G. Walter Dittmar on the evening of February 15th, at the Lake Shore Athletic Club in Chicago. Dr. Dittmar retires this year after 40 years service with the College as Head of the Prosthetic Department.

He is also Past President of the American Dental Association, having served as its president in 1933.

Due to the high regard in which he is held by all dentists and because

of his many contributions to the dental profession and to dental education generous representation of his friends and dental colleagues is anticipated on this occasion.

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**Dr. McFall Essayist . . .**

Dr. McFall is scheduled to appear on the 79th Annual Iowa Program at Des Moines during the morning and afternoon sessions of May 5, 1941.

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**Caries Averages for Children . . .**

In reviewing the data on preschool records from all sections of the country, the following in formation has been compiled:

| *Age* | *Cavities Per Capita* |
|---|---|
| 2 | 1.13 |
| 3 | 2.67 |
| 4 | 3.97 |
| 5 | 4.05 |
| 6 | 4.34 |
| 7 | 4.87 |
| 8 | 4.65 |
| 9 | 4.59 |
| 10 | 3.98 |
| 11 | 4.35 |

(From the Iowa Dental Bulletin, December, 1940)

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**Dr. McBeath's Study on Caries Control . . .**

Dr. McBeath is conducting a study of the effect of vitamin D on the control of caries. This experiment on 800 children in orphanages will last through the entire year.

In order to evaluate dental examinations and obtain the percentage of difference in the findings of examiners, groups of children with 10 in each group are being studied. Each group is examined by 6 different examiners, and then the results are compared.—I.G.W., '41. (The Columbia Dental Review, Nov., 1940.)

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## Recommendations of the Committee on Nomenclature*

### American Academy of Periodontology

The last extensive report from a Committee on Nomenclature to this Academy was presented at the 1937 annual meeting. At that time, the Committee on Nomenclature, with Dr. A. H. Merritt serving as chairman, reported an exhaustive study of the problems of nomenclature related to the science of periodontology. The Academy accepted the 1937 report but no steps were taken to put into effect the recommendations of that report. The

*Adopted at the Annual Meeting, Cleveland, Ohio, September 5, 1940.

Academy and its members continue to employ, and possibly to be annoyed by, a mixture of terms, some of which are vague and not in keeping with the scientific progress made in the other phases of periodontology. The use of certain terms has prevented a more widespread diffusion of knowledge than might have been the case with a nomenclature of more specific clarity and unity of thought and expression An exchange of ideas and thoughts is possible only if the conversants employ a language of marked specificity. The newer knowledge in the field of periodontology calls for a language of more accurate definition than is now used in some circles. With these thoughts in mind, your Committee on Nomenclature respectfully submits the following report.

Terms relating to the teeth and dentistry are rooted from both Latin and Greek: The Latin word "dens" and the Greek "odous" serve as the keystones of dental nomenclature. To these roots may be added such prefixes and suffixes as are necessary to formulate words of accurate definition. It would appear reasonably logical that, if dental nomenclature is to be in keeping with the high classical and scientific esteem to which dentistry aspires, it should be based on pure classical origins rather than made up of a collection of hybrid terms.

The science of periodontology concerns itself basically with the so-called supporting or investing structures of the teeth. Two prefixes are in use to designate collectively these tissues: "peri" and "para," both of Greek origin. The prefix "peri" has enjoyed a longer use in this country than the prefix "para." "Peri" was the only prefix used in this country in the early phases of the history of periodontology. The terms "periodontology," "periodontia," and "periodontist" were originally formulated with no thought of etymological controversy. As a matter of fact, "peri" was used rather exclusively in this country until approximately a decade ago when important contributions to dental literature began to appear from workers in Germany and Austria, some of whom we are now privileged to have as residents in this country. These workers quite naturally subscribe to the nomenclature of the Federation Dentaire Internationale. While generally accepted by European workers, the nomenclature of the Federation Dentaire Internationale has not been widely accepted in this country. Your Committee proposes to discuss some of the reasons for what may be called the American opposition to the Federation Dentaire Internationale nomenclature.

The prefix "peri" is used in anatomy and in medicine generally to designate tissues which surround, encase or ensheathe: "pericardium," "periosteum."

The prefix "para" has a much wider use. In anatomy, it is used to designate structures which lie nearby or beside: "parathyroid," "parapineal." It is also used to connote embryological relationship: "parovarium," "paroophoron." In chemistry, it is used to indicate closely related compounds: "formaldehyde," "paraformaldehyde." It is apparent that "para" is a prefix of multiple inferences and is, therefore, not as accurately descriptive as the prefix of more limited connotation, "peri."

If dental nomenclature is to be pure rather than hybrid in its etymology, the Latin root "dens" should not be used with either of the Greek prefixes "peri" and "para." Rather should the Greek root "odont" (from "odous") be employed.

A number of suffixes may be utlized in the construction of terms related to periodontal anatomy and pathology.

The Greek "klastos" (broken) is the etymological source of the derivatives "clasia" and "clastic." These suffixes are logically used to indicate non-specifically and collectively all the destructive processes, from whatever cause and of whatever nature, of the part to the name of which they are attached. Such terms naturally do not indicate the etiology or the nature of the destructive processes. Descriptive adjectives must be added or other more specific terms used for accurate definition. The all-inclusive, non-specific terms "periodontoclasia" and "periodontoclastic," while of limited usefulness, nevertheless serve importantly in periodontal nomenclature.

The suffix "itis"—of Greek origin—is defined as a suffix indicating inflammation of the part to the name of which it is attached. Its use is so well established as to obviate discussion. The inflammatory diseases of the periodontium are, therefore, properly designated "periodontitis." This term may be modified by such adjectives as may be necessary to accurately describe the prevailing disease: "acute," "chronic," "purulent," "non-purulent," "ulcerative," "hypertrophic," et cetera.

The suffix "osis" is a termination of rather wide and multiple inferences. It is used to indicate diseases or morbid processes in a broad general sense. It is also used to indicate non-morbid processes. If a limitation on its inferences is to be placed, it may be pointed out that it is used to denote *degenerative* rather than *inflammatory* disease. For instance: (1) nephr*osis* is defined as *any* disease of the kidney, particularly those diseases *degenerative* in character; (2) an inflammatory disease of the kidnney is designated *nephritis*. The use of the suffix "osis" in periodontal nomenclature may, therefore, be construed as broad, vague and non-specific. It cannot be said to indicate accurately any one specific morbid condition but rather to connote collectively all the periodontal diseases. It may, therefore, be properly used as a synonym for the suffix "clasia."

Based upon the foregoing discussion, your Committee offers the following recommendations:

1. That, in order to have a nomenclature of pure classic origin, only Greek roots and derivatives be used in formulating periodontal terms.
2. That "odont" (from Greek "odous") be used as the basic root of periodontal nomenclature.
3. That the prefix "peri" be used to denote the supporting tissues and structures of the teeth, the term periodontium to be defined to include the *periodontal* membrane, the alveolar bone and the gingiva.
4. That the prefix "para" be used only when it is intended to indicate something specifically *beside* or *nearby* and not *surrounding* the tooth. The so-called parietal abscess may properly be designated *parodontal*

*abscess* if the lesion involves structures only on the side of or near the tooth but not involving the entire circumference of the tooth.

5. That all the diseases of the periodontium be collectively and non-specifically designated "periodontoclasia" or "periodontosis."
6. That the inflammatory diseases of the periodontium be designated "periodontitis."
7. That the terms "periodontology," "periodontia" and "periodontist" be continued in usage as now generally accepted in this country.

Your Committee concurs in the recommendation of the 1931 Committee on Nomenclature that the term "gingival crevice" be discarded in favor of the term "gingival sulcus." The reasons for this recommendation are obvious and are fully discussed in the 1931 report.

Your Committee is of the opinion that the Academy, during its twenty-seven years of vigorous and constructive activity, has made inestimable contributions to dentistry in general and, more importantly, has also been largely responsible for stimulating and guiding the notable progress in the science of periodontology in this country and throughout the world as well. By virtue of the position which the Academy now holds, it has not only the privilege but also the responsibility of further promoting its influence. Your Committee, therefore, feels that the Academy should establish an *official* nomenclature for use in its transactions. To this end, your Committee recommends:

1. That the system of nomenclature outlined in this report be adopted as the official nomenclature of the Academy.
2. That essayists appearing in Academy programs be requested to employ the proposed official nomenclature.
3. That papers to be published in the Journal of Periodontology be editorially revised accordingly.
4. That copies of this report be sent to the Committees on Nomenclature of the American Dental Association and the Canadian Dental Association, to the secretary of the Federation Dentaire Internationale, to the executive secretary of the National Conference on Nomenclature of Diseases, to the secretary of the National Association of Dental Examiners and to all the members of the American Association of Dental Editors.

Respectfully submitted,

JOHN OPPIE MCCALL
JAMES E. AIGUIER
HARRY LYONS, *Chairman*

# BOOK REVIEWS

## "Diseases of the Mouth"

Sterling Mead, Washington, D.C.'s outstanding oral surgeon, has recently brought out the fifth edition of his book, Diseases of the Mouth.

In this edition are 1,059 pages filled with oral pathology, together with diagnoses and treatments. Needless to say it is a masterful volume, comprising all and every phase of oral diseases. While written primarily as a text for dental and medical students, the author has expressly stated that it is his hope the treatise may supply both practicing dentists and physicians with the fundamental principles and practical knowledge necessary in their routine work.

Of special interest to those bent on pedodontics are four complete chapters dealing with the following subject matter:

Caries and the most likely etiologic factors
Erosion
Abrasion and attrition
Hypersensitive dentine
Hypoplasia
Mottled enamel
Ankylosis
Calcification
Resorption of deciduous roots
Resorption of permanent roots
Effect of infected deciduous teeth on permanent tooth growth
Anamolies, size, number and arrangement
Thumb and finger sucking
Night grinding of the teeth
Abnormal frenum

Here's a good book for your office or for your home "reference shelf." Even though you may refer to it but infrequently it still plays a role in your office bookcase, in the nature of atmosphere. A volume of this size, and bound so creditably by the publisher, bears a significant aspect to the layman who stands at your desk to make an appointment or exchange funds for a receipt.

## Labio-Lingual Technic

A new book hot off the presses of the Mosby Company bears the above title and is authored by the president-elect of the American Dental Association, Oren A. Olver, of Nashville, Tenn., together with Russel Irish, Pittsburg, and Claude R. Wood, Knoxville, Tennessee.

This jointly authorized text is dedicated to two great pioneers in orthodontia, Drs. Angle and Dewey. It is a descriptive text giving the technic and principles of labial lingual appliances. The authors have attempted to

put in concrete form a technic sufficiently comprehensive to permit a step by step description of the introductory phases, construction, and use of the labial lingual appliance. The absence of biologic material is due, it is said, entirely to the fact that the book is intended to deal primarily with the mechanics of treatment.

The book is most assuredly what it is intended to be, a detailed step by step procedure in appliance construction. An abundance of very fine figures of models or actual oral technic, with excellent photography, materially augments the written data. The four initial chapters deal with impression taking, and the production of both working and record models. Following that are chapters dealing with instrumentation, equipment, and laboratory procedures including soldering. The remainder has to do with separation, anchorage, band construction and the construction of the various types of appliances together with modifications to suit each individual case.

Should you, in doing general dentistry, be interested in making some presentable record models of your interesting cases this book will serve you well. If you have some knowledge of orthodontia and treat a few of the simple irregularities it will be a guide in your appliance selection and construction, and, be you an orthodonist, you could make yourself feel good by reading along saying amen to every agreeable and acceptable fact issued as well as issue criticisms for the ideas which depart from yours. Its a textbooky text, written pedantically leaving nothing to one's imagination, but such a book is good for one. Put this on your "five foot shelf" also.

The concluding paragraph entitled "Orthodontic Axioms" is taken from the writing of Dr. Mershon:

> "It is possible to do harm with orthodontic appliances."
>
> "No two cases ever respond to the same treatment in the same way."
>
> "You can push teeth to where you think they belong. Nature will move them to where they will best adapt themselves to the rest of the organism."